Amendments to Claims

1. (Original) A chromium-containing catalyst composition, comprising:
$ZnCr_2O_4$; and
crystalline α-chromium oxide;
wherein the $ZnCr_2O_4$ contains between about 10 atom percent and 67 atom percent of the chromium in the composition and at least about 70 atom percent of the zinc in the composition, and wherein at least about 90 atom percent of the chromium present as chromium oxide in the composition is present as $ZnCr_2O_4$ or crystalline α-chromium oxide.

2. (Original) The chromium-containing catalyst composition of Claim 1 wherein the $ZnCr_2O_4$ contains between about 20 atom percent and about 50 atom percent of the chromium in the composition.

3. (Original) The chromium-containing catalyst composition of Claim 1 wherein the $ZnCr_2O_4$ contains at least about 90 atom percent of the zinc in the composition.

4. (Original) The chromium-containing catalyst composition of Claim 1 wherein greater than 95% of the chromium that is not present as zinc chromite is present as crystalline α-chromium oxide.

5. (Original) The chromium-containing catalyst composition of Claim 1 which consists essentially of $ZnCr_2O_4$ and crystalline α-chromium oxide.

6. (Original) A chromium-containing catalyst composition prepared by treatment of the composition of Claim 1 with a fluorinating agent.

7. (Original) The chromium-containing catalyst composition of Claim 6 wherein the fluorinating agent is anhydrous hydrogen fluoride.

8. (Original) A process for changing the fluorine distribution in a halogenated hydrocarbon, or incorporating fluorine in a saturated or unsaturated hydrocarbon, in the presence of a catalyst characterized by: using as a catalyst at least one composition selected from the group consisting of (i) the chromium-containing catalyst compositions of Claim 1 and (ii) chromium-containing catalyst compositions prepared by treatment of a composition of Claim 1 with a fluorinating agent.

9. (Original) The process of Claim 8 wherein the fluorine content of a halogenated hydrocarbon compound or an unsaturated hydrocarbon compound is increased by reacting said compound with hydrogen fluoride in the vapor phase in the presence of said catalyst composition.

10. (Original) The process of Claim 8 wherein the fluorine content of a halogenated hydrocarbon compound or a hydrocarbon compound is increased by reacting said compound with HF and Cl_2 in the vapor phase in the presence of said catalyst composition.

11. (Original) The process of Claim 8 wherein the fluorine distribution in a halogenated hydrocarbon compound is changed by isomerizing said halogenated hydrocarbon compound in the presence of said catalyst composition.

12. (Original) The process of Claim 8 wherein the fluorine distribution in a halogenated hydrocarbon compound is changed by disproportionating said halogenated hydrocarbon compound in the vapor phase in the presence of said catalyst composition.

13. (Original) The process of Claim 8 wherein the fluorine content of a halogenated hydrocarbon compound is decreased by dehydrofluorinating said halogenated hydrocarbon compound in the presence of said catalyst composition.

14. (Original) The process of Claim 8 wherein the fluorine content of a halogenated hydrocarbon compound is decreased by reacting said halogenated hydrocarbon compound with hydrogen chloride in the vapor phase in the presence of said catalyst composition.

15. (Original) A method for preparing the chromium-containing catalyst composition of Claim 1, comprising:

(a) co-precipitating a solid by adding ammonium hydroxide to an aqueous solution of a soluble zinc salt and a soluble trivalent chromium salt that contains at least three moles of nitrate per mole of chromium in the solution and has a zinc concentration of from about 5 mole % to about 25 mole % of the total concentration of zinc and chromium in the solution and where at least three moles of ammonium per mole of chromium in the solution has been added to the solution;

(b) collecting the co-precipitated solid formed in (a);

(c) drying the collected solid; and

(d) calcining the dried solid.

16. (Original) The process of Claim 15 wherein $ZnCr_2O_4$ is formed during (d).

17. (New) A chromium-containing catalyst composition, comprising:

$ZnCr_2O_4$; and

crystalline α-chromium oxide;

wherein the $ZnCr_2O_4$ contains between 10 atom percent and 67 atom percent of the chromium in the composition and at least 70 atom percent of the zinc in the composition, and wherein at least 90 atom percent of the chromium present as chromium oxide in the composition is present as $ZnCr_2O_4$ or crystalline α-chromium oxide.

18. (New) The chromium-containing catalyst composition of Claim 17 wherein the $ZnCr_2O_4$ contains between 20 atom percent and 50 atom percent of the chromium in the composition.

19. (New) The chromium-containing catalyst composition of Claim 17 wherein the $ZnCr_2O_4$ contains at least 90 atom percent of the zinc in the composition.

20. (New) A method for preparing the chromium-containing catalyst composition of Claim 17, comprising:

(a) co-precipitating a solid by adding ammonium hydroxide to an aqueous solution of a soluble zinc salt and a soluble trivalent chromium salt that contains at least three moles of nitrate per mole of chromium in the solution and has a zinc concentration of from 5 mole % to 25 mole % of the total concentration of zinc and chromium in the solution and where at least three moles of ammonium per mole of chromium in the solution has been added to the solution;

(b) collecting the co-precipitated solid formed in (a);

(c) drying the collected solid; and

(d) calcining the dried solid.